

REMARKS

Status

This Amendment is responsive to the Final Office Action dated June 5, 2007, in which claims 1-8, 10-21 and 25-27 were rejected. Claims 22-24 have been withdrawn. Claim 9 was canceled. Accordingly, claims 1-8, 10-21, and 25-27 are pending in the application and are presented for reconsideration and allowance.

Claim Rejection - 35 USC 102

Claims 1-8, 11-14 and 25, stand rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 5,369,036 (Mercolino). Mercolino is stated by the Examiner to teach "a color-coded particle comprising a reversible photochromic compound in a polymeric matrix ...; the bead having a receptor molecule on its surface ..., the photochromic compound confers on the bead a distinct optical signature, and wherein the receptor is able to bind to a target analyte." The Examiner further states that in regard "to the limitation where the color coded bead is for use in a 2-dimensional microarray for detecting target analytes, since the color particle of Mercolino is the same as that of the present invention, such particle would be usable in a 2-dimensional microarray for detecting analytes." The Examiner points out various locations in Mercolino where the disclosure of Mercolino is considered to relate to the dependent claims 2-8, 11-14, and 25. This rejection is respectfully traversed.

It is respectfully urged that Mercolino does not disclose a reversible photochromic compound in a polymeric matrix bead. The dye materials of Mercolino are disclosed in column 4, lines with 30-43. These materials are contained in sacs and are not reversible photochromic compounds. The Examiner's attention is directed to page 5 of the present application where a discussion of reversible polymeric and photochromic dyes is found. Particular reference is made to page 5, line 18 to page 6, line 1. Reversible photochromic materials are not listed in the dyes disclosed by Mercolino at column 4, lines 20-42 where Mercolino dyes are disclosed. Since Mercolino does not disclose the reversible photochromic dyes, claims 1-8, 11-14, and 25 are not anticipated.

Therefore, reconsideration and withdrawal of this 35 USC 102 rejection are respectfully requested.

Claim Rejection - 35 USC 103

Claims 10 and 15-19 are rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 5,369,036 (Mercolino.) in view of U.S. Patent Application Publication No. 2004/0069857 (Leblans). The Examiner states that Mercolino was discussed above and that Mercolino fails to teach “that the polymer matrix is amorphous polymer.” Mercolino is also stated to fail “to teach a microarray comprising a 2-dimensional support, on which are disposed the beads comprising of (*sic*) a reversible photochromic compound in a polymeric matrix, the bead having a receptor on its surface.” The Examiner states that Leblans discloses “that the materials which can be used for deposition of codes or photochromic compounds can be amorphous materials … which encompasses amorphous polymers.” The Examiner asserts that Leblans teaches microcarriers “arranged in a microarray for high throughput screening assay”; and microcarriers “attached to the support of the array.” The Examiner further asserts that “it is inherent that the microcarriers [of Leblans] can be randomly or in orderly distributed [*sic*] on the solid support” including microwells. The Examiner further asserts that one of ordinary skill in the art would have found it obvious “to dispose the particles of Mercolino on the microarray taught by Leblans for use in a high throughput screening assay.” The Examiner considers that one of ordinary skill in the art “would have a reasonable expectation of success in combining these references” as both use polystyrene beads coded with photochromic compounds having a receptor on the surface of the beads.” The Examiner asserts that it would have been obvious to one of ordinary skill in the art “to disperse the reversible photochromic dye as taught by the Mercolino in an amorphous polymer as taught by Leblans.” This rejection is respectfully traversed.

As above stated the Mercolino reference does not disclose a reversible photochromic compound as disclosed by the present application. Leblans also does not disclose such a material. The Examiner’s attention is directed to the present application at page 6, line 28 to page 7, line 7. In that section the unique use of the particles as claimed is described. The presently claimed types of

particles allow a recording of the signals as image A when an analyte is recorded and a recording of another image when the photochromic compounds are reversed to a color allowing them to be read as image B. This manner of analysis is more exact as the beads are not colored or fluorescent when the analyte is read. As the reversible photochromic compounds such as utilized in this invention are not disclosed or suggested by Mercolino in any combination with Leblans, it is respectfully requested that this rejection under 35 USC 103 be reconsidered and withdrawn.

Claims 20 and 21 are rejected under 35 USC 103(a) as being unpatentable over Mercolino in view of Leblans as applied to claim 1 above, and further in view of US Patent No. 6,429,027 (Chee). In this rejection Mercolino and Leblans are applied as in the above rejection. Chee is cited to disclose the laydown quantity of microspheres on the support. As above urged the Mercolino and Leblans references do not disclose the reversible polymeric dye as instantly claimed. Chee does not disclose or suggest such a reversible dye. Further, Chee does not disclose or suggest that beads containing reversible polymeric dye would be laid down in the same amount as set forth in Chee. Therefore, it is respectfully requested that this rejection under 35 USC 103 be reconsidered and withdrawn.

Claims 26 and 27 are rejected under 35 USC 103(a) as being unpatentable over Mercolino in view of U.S. Patent Application Publication No. 2003/0030040 (Luthern). In this rejection of Mercolino is applied as discussed in the earlier rejections. The Examiner states that Mercolino fails to teach an analyte stabilizer such as a plasticizer, hindered amine, hindered phenol or excited state quencher. Luthern is stated to teach encapsulating reversible photochromic dyes in polymers and adding various light stabilizers such as set forth. The Examiner states it would be obvious to use the stabilizers of Luthern in the composition of Mercolino, as both teach encapsulating photochromic dyes in polymer. This rejection is respectfully traversed.

As urged above, Mercolino does not disclose the reversible polychromic compound as taught in the present application. Nor does Luthern. Rather, Luthern discloses reversible dyes utilized in the formation of an article composed of mixtures of synthetic resin, apparently for decorative purposes. There is no disclosure or suggestion of such dyes for use in microarrays which are a

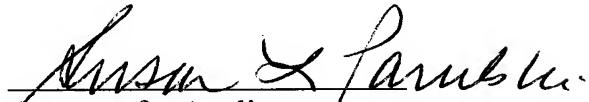
completely different technology. There is no teaching of their use to achieve the advantage set forth in the instant specification. Therefore, it is respectfully requested that this rejection be reconsidered and withdrawn.

Summary

Should the Examiner consider that additional amendments are necessary to place the application in condition for allowance; the favor is requested of a telephone call to the undersigned counsel for the purpose of discussing such amendments.

For the reasons set forth above, it is believed that the application is in condition for allowance. Accordingly, reconsideration and withdrawal of the 35 USC 102 and 35 USC 103 rejections, and favorable action are respectfully solicited.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Carestream Health, Inc. at 585/724-9490 or 585/724-9409.